



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

UNIVERSITY OF LOWELL

DOCKET NO. 50-223

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 8
License No. R-125

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The filing by the University of Lowell (the licensee) dated March 25, 1982, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the provisions of the Atomic Energy Act of 1954, as amended, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
 - F. Prior public notice of this amendment was not required since it did not involve a significant hazards consideration nor amendment of a license of the type described in 10 CFR Section 2.106(a)(2).
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. R-125 is hereby amended to read as follows:

DESIGNATED ORIGINAL

Certified By

CC 5/17/80


8205200316 820517
PDR ADOCK 05000223
P PDR

2.C.(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 8 are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Harold Bernard, Acting Chief
Standardization & Special
Projects Branch
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance MAY 17 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 8

FACILITY OPERATING LICENSE NO. R-125

DOCKET NO. 50-223

Revise Appendix A Technical Specifications as follows:

Remove Pages

28
29
30
31

Insert Pages

28
29
30
31

Changes on the revised page are identified by marginal lines.

3. Variable-load element: same as Specification 1 above but internal plates are removable.

5.2 REACTOR CORE

1. The reactor core consists of a 9x7 array of 3-inch square modules with the four corners occupied by posts. The reference core for these technical specifications consists of 26 standard fuel elements arranged symmetrically around four safety control blades as shown in Figure 4.23 of the FSAR.
2. Cores from 23 standard elements to 30 elements may be used, and cores from 24 elements to 30 elements may contain 2 half-loaded elements.
3. Cores with an internal fuel element replaced by a radiation basket may be operated under forced convection only after flux measurements made under natural convection establish that no alteration of the LSSS's are required to preclude violation of a SL during the transients anticipated in the FSAR.

5.3 REACTOR BUILDING

1. The reactor shall be housed in the reactor building, designed for containment. The minimum free volume in the reactor building shall be $8.5 \times 10^9 \text{ cm}^3$ ($300,000 \text{ ft}^3$).
2. The reactor building ventilation and containment systems shall be separate from the rest of the building systems and shall be designed to exhaust air or other gases from the building through a stack with a discharge at a minimum of 100 feet above ground level.
3. The openings into the reactor building are the truck entrance door, personnel entrance doors, and air supply and exhaust ducts.

5.4 FUEL STORAGE

All reactor fuel element storage facilities shall be designed in a geometrical configuration where k_{eff} is less than 0.8 under quiescent flooding with water.

6.0 ADMINISTRATIVE CONTROLS

6.1 ORGANIZATION AND MANAGEMENT

1. The reactor facility shall be an integral part of the Radiation Laboratory of the University of Lowell. The reactor shall be related to the University structure as shown in Chart 6.1 and Chart 6.2.

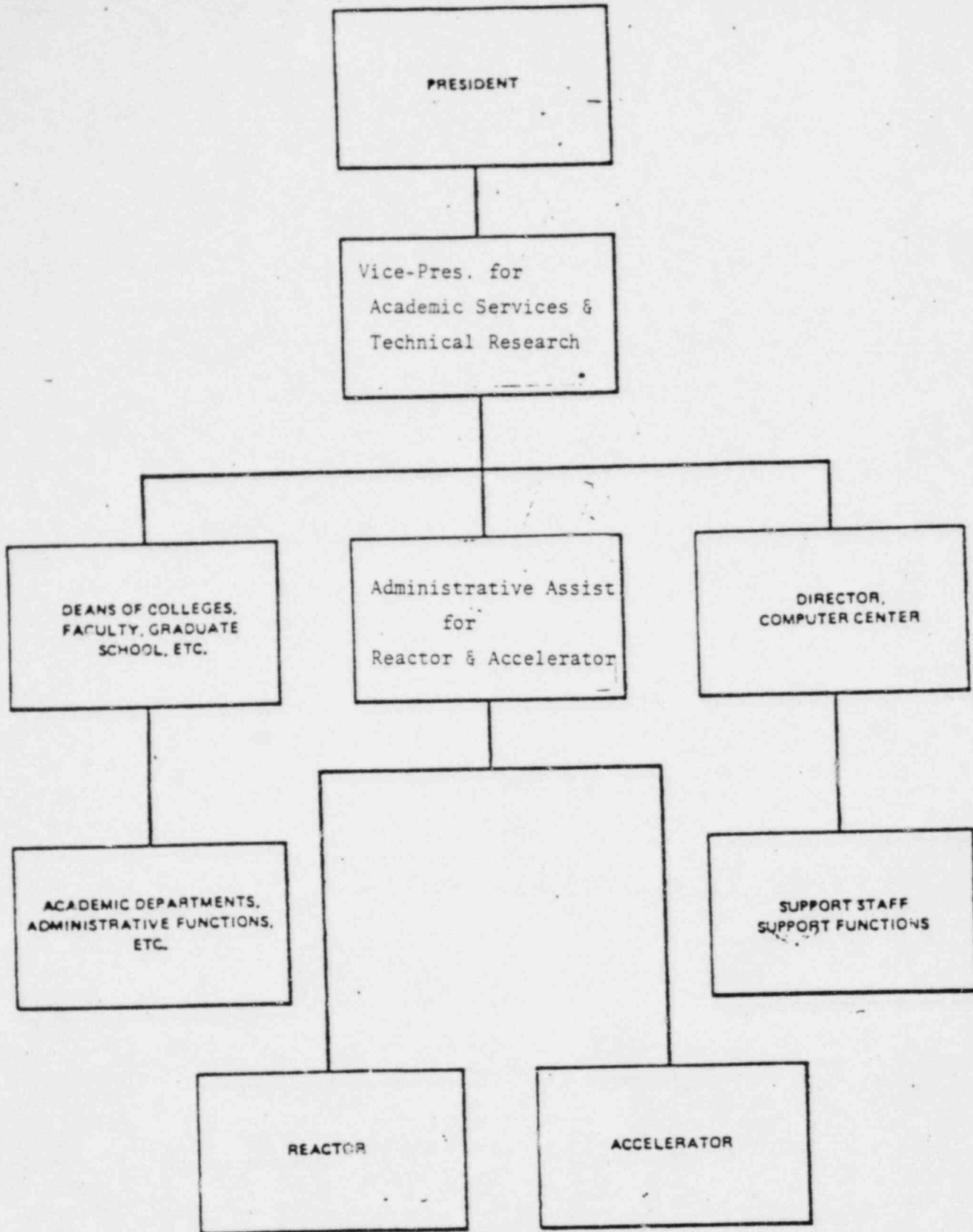


CHART 6-1. Univ. of Lowell Administrative Structure

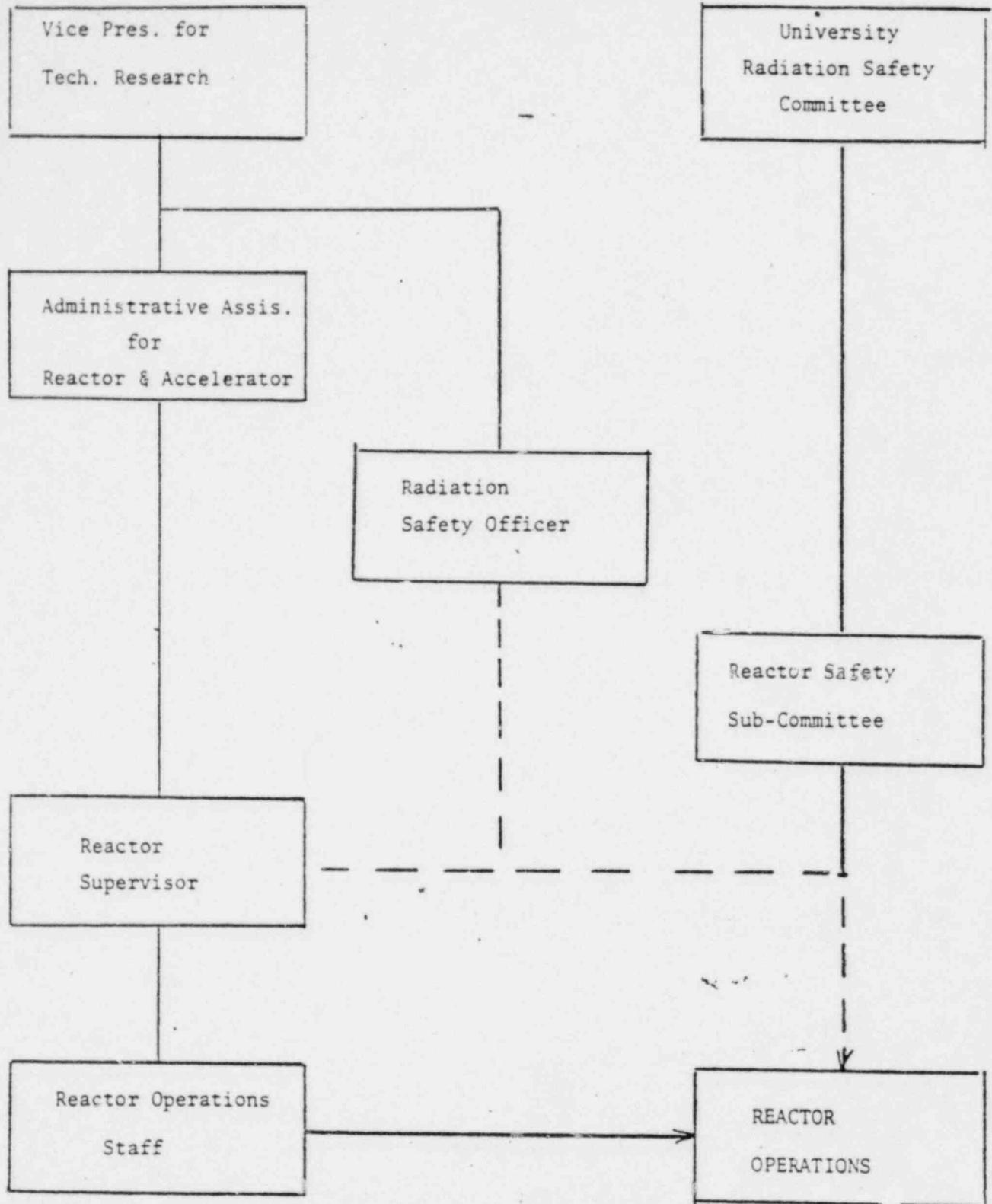


CHART 6-2. University of Lowell Reactor Organizational Structure

2. The reactor facility shall be under the direction of the Administrative Assistant for the Reactor and Accelerator, who shall be a member of the graduate faculty, and it shall be supervised by the Reactor Supervisor who shall be a NRC licensed senior operator for the facility. The Reactor Supervisor shall be responsible for assuring that all operations are conducted in a safe manner and within the limits prescribed by the facility license and the provision of the Reactor Safety Sub-Committee.
3. There shall be a Radiation Safety Officer responsible for the safety of operations from the standpoint of radiation protection. He does not report to the line organization responsible for reactor operations, but rather to the Vice President for Academic Services and Technical Research.
4. An operator or senior operator licensed pursuant to 10CFR 55 shall be present at the controls unless the reactor is secured as defined in these specifications.
5. A licensed senior operator shall be readily available on call within the Pinanski Building whenever the reactor is in operation.

6.2

REVIEW AND AUDIT

1. There shall be a Reactor Safety Subcommittee which shall review reactor operations to assure that the facility is operated in a manner consistent with public safety and within the terms of the facility license. The Subcommittee shall report to the Institute Radiation Safety Committee which has overall authority in the use of all radiation sources at the Institute.
2. The responsibilities of the Subcommittee include, but are not limited to, the following:
 - a. Review and approval of normal, abnormal and emergency operating and maintenance procedures and records.
 - b. Review and approval of proposed tests and experiments utilizing the reactor facilities in accordance with Paragraph 6.8 of these specifications.
 - c. Review and approval of proposed changes to the facility systems or equipment, procedures, and operations.
 - d. Determination of whether a proposed change, test, or experiment would constitute an unreviewed safety